BONE DEFORMITY IDENTIFICATION USING MACHINE LEARNING

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MES20MCA-2059

PRODUCT OWNER –NOWSHAD.CV

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INTRODUCTION

The success of machine learning algorithms in medical imaging has increased the need for artificially trained models to make them work in the medical field more quickly and efficiently. This paper gives a technique to identify bone fracture using machine learning algorithms, by which workload for orthopedics can be reduced. The significant use of machine learning in this era of big medical data would help gather information from the available x-ray images rather than spending hours in the radiology departments. This Project presents imaging technologies used to identify bone fracture in the human body and give quick results once the x-ray has been taken. The Main Modules are Admin and user.

MODULES

❖ **ADMIN**

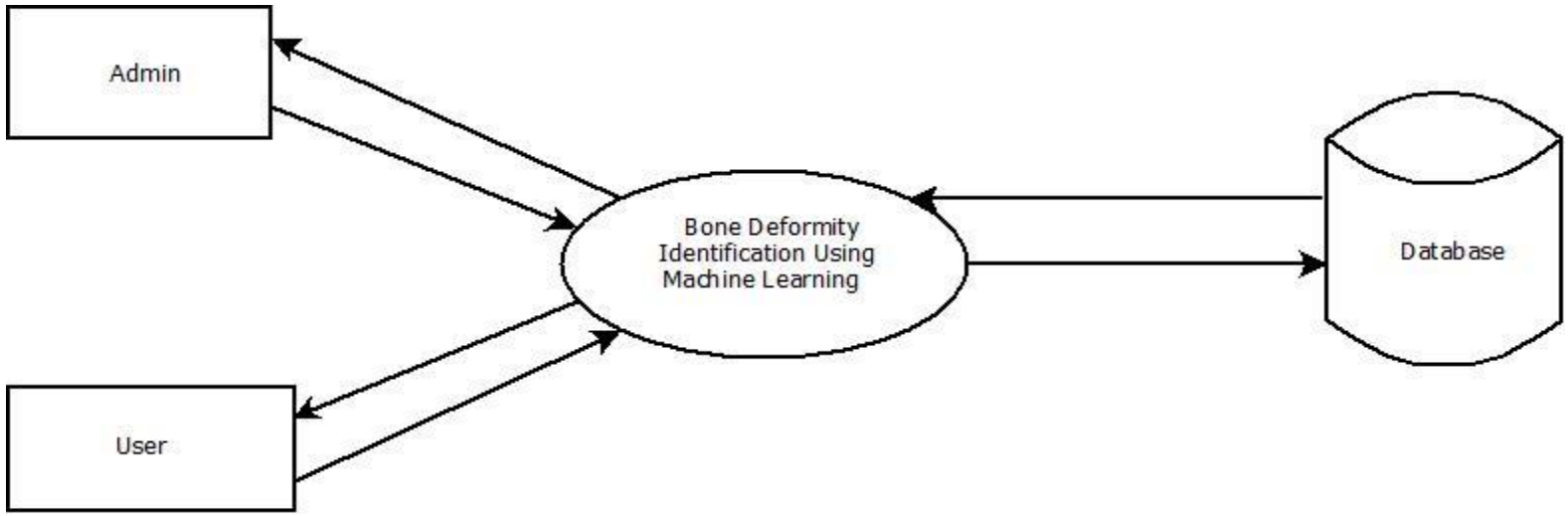
1. Login
2. Data set management
3. View users
4. Feedbacks
5. View prediction results

❖ **USER**

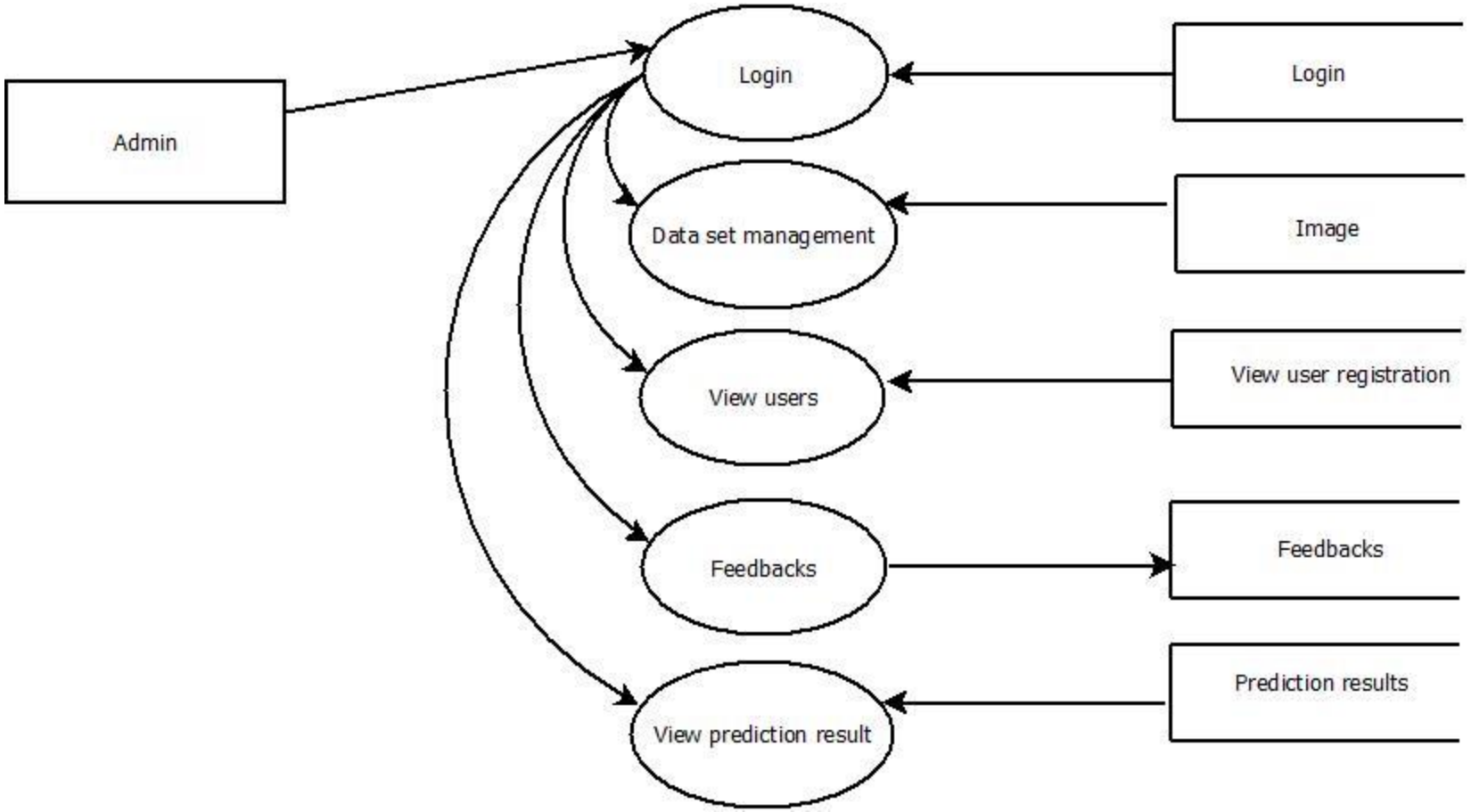
1. Register
2. Login
3. Upload image
4. View prediction
5. Feedback

DATA FLOW DIAGRAM

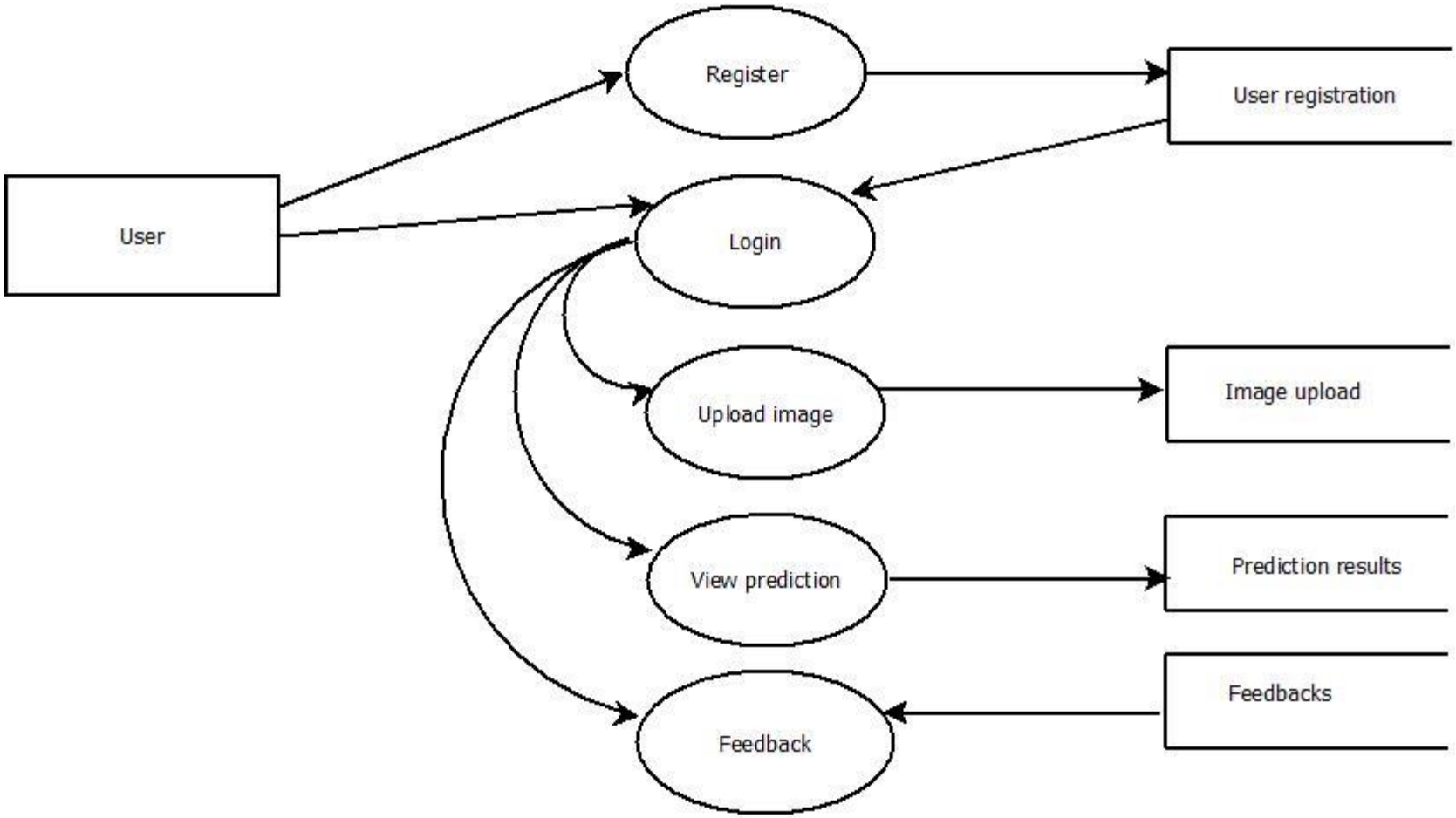
LEVEL-0



LEVEL-1.1


Admin
Login
Data set management
View users
Feedbacks
View prediction result
Login
Image
View user registration
Feedbacks
Prediction results

LEVEL-1.2


Register
User registration
User
Login
Upload image
Image upload
View prediction
Prediction results
Feedbacks
Feedback

DEVELOPING ENVIRONMENT

- **Hardware Requirements**

  - Input Device :Mouse , Keyboard
  - Output Device :Monitor
  - Memory :3 Gb(Minimum)
  - Processor :Intel Pentium Core i3 and above, 64 bits

- **Software Requirements**

  - Operating System :WINDOWS 10(Better Performance)
  - Front End :Html,Css,JavaScript
  - Back End :Mysql
  - IDE Used :JetbrainsPycharm,Android studio
  - Technology Used :Python,Java
  - Frame Work Used :Flask

PRODUCT BACKLOG

User Story ID	Priority <High/Medium/Low>	Size (Hours)	Sprint <#>	Status <Planned/In progress/Completed>	Release Date	Release Goal
1	Medium	2	1	Completed	08/01/2022	Table design
2	High	3		Completed	08/01/2022	Form design
3	High	5		Completed	08/01/2022	Basic coding
3	High	5	2	Planned		Creation data set
4	Medium	5		Planned		Preprocessing
5	High	5	3	Planned		Training
6	medium	5		Planned		Prediction
7	Medium	5	4	Planned		Testing data
8	High	5		Planned		Output generation

USER STORY

UserStoryID	As a <type of user>	I want to	So that I can
1	Admin	login	login successful with correct username and password
2	Admin	view user	view users
3	Admin	view feedback	view users feedback

PROJECT PLAN

User Story ID	Task Name	Start Date	End Date	Days	Status
1	Sprint 1	26/12/2021	28/12/2021	2	Completed
2		29/12/2021	31/12/2021	3	Completed
3		03/01/2022	08/01/2022	5	Completed
4	Sprint 2	09/01/2022	16/01/2022	8	Planned
5		18/01/2022	22/01/2022	5	Planned
6	Sprint 3	23/01/2022	27/01/2022	5	Planned
7		30/01/2022	05/02/2022	7	Planned
8	Sprint 4	06/02/2022	10/01/2022	5	Planned
9		16/02/2022	19/02/2022	4	Planned

SPRINT BACKLOG

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3,#4		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	28/12/2021	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Form design	31/12/2021	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Coding	08/01/2021	5	0	0	0	0	0	0	0	0	0	1	1	1	1	1
User story #5,#6,#7,#8																
Scan files	16/01/2022	5	1	1	0	1	0	1	0	1	0	0	0	0	0	0
Text –to-speech	22/01/2022	5	0	0	0	0	0	0	0	0	0	1	1	1	1	1
Speech-to-text	27/01/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Save files	05/02/2022	5	0	0	0	0	0	0	0	1	0	1	1	1	0	1
Testing data	10/01/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
User story #9																
Output generation	20/02/2022	5	0	0	0	0	0	0	0	0	0	2	1	1	1	1
Total		40	4	4	2	4	3	2	0	2	0	5	4	4	3	4

SPRINT ACTUAL

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3,#4		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	28/12/2021	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Form design	31/12/2021	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Coding	08/01/2021	5	0	0	0	0	0	0	0	0	0	1	1	1	1	1
User story #5,#6,#7,#8																
Scan files																
Text –to-speech																
Speech-to-text																
Save files																
Testing data																
User story #9																
Output generation																
Total		10	1	1	0	1	1	1	0	0	0	1	1	1	1	1

THANK YOU